Preliminary Remarks

In response to the last Office Action received in the parent application, U.S. Application Serial No. 10/299,932, Applicants respectfully submit the following Preliminary Remarks and request that such Remarks be considered before or in conjunction with examination of the present continuation application.

REMARKS:

In the last Office Action of the parent application, the Examiner rejected claims 12 and 13 (now pending claims 1 and 6) under 35 U.S.C. § 102(b) as being anticipated by Masumoto and under 35 U.S.C. § 102(e) as being anticipated by Farine and Beason. Applicants respectfully submit that neither Masumoto, Farine, Beason, nor any other prior art reference of record in the parent or continuation applications teaches or suggests all the features claimed in the pending claims. In particular, the references do not teach or suggest the feature of calibrating the altimeter *while the electronic device is in motion*, as claimed in the pending independent claim and as discussed in more detail below.

As discussed in the *Description of the Related Art* of the present application, prior art electronic devices utilizing a GPS unit and a barometric pressure altimeter ("altimeter") to determine an altitude of the device often inaccurately calibrate the altimeter using GPS-derived altitude information. As explained at pages 2-3 of the specification, such prior art devices calibrate the altimeter by finding the difference between an altitude as measured by the altimeter and an altitude as measured by the GPS unit. This difference, otherwise known as a correction factor or barometric bias, is then applied to the altitude as determined by the altimeter for calibrating the altimeter. However, as discussed in the *Description of the Related Art*, utilizing the correction factor, i.e., the difference between the GPS unit-derived altitude and the altimeter-derived altitude, as a term in calibrating the altimeter will **common mode out any dynamic changes due to movement of the barometric altimeter and the GPS unit in tandem**. Therefore, in order to obtain an accurate correction factor, the electronic device must be stationary while calibrating the altimeter. Otherwise, if the electronic device is in motion while obtaining the correction factor, the long-term fluctuations

in the altitude as measured by the barometric pressure altimeter and the short-term fluctuations in the altitude as measured by the GPS unit will not be properly accounted for and considered in the calibration calculation.

To solve this problem, the present invention provides a calibration process that does more than take the mere difference between the GPS unit-derived altitude and the altimeter-derived altitude. As claimed in the parent application, the present invention computes a preliminary calibrated elevation, computes a base pressure value corresponding to the preliminary calibrated elevation, and from these values computes a fully-calibrated elevation or altitude. Importantly, these calibration computations can be performed while the electronic device is in motion via travel by a user. Therefore, the user of the electronic device is not required to stand still while calibrating the altimeter. The presently pending independent claims recites this feature by specifically claiming that the electronic device is operable to *calibrate the altimeter while the device is in motion.*

The references cited to reject claims 12 and 13 in the parent application appear to all calibrate the barometric pressure altimeter by determining the difference between a GPS unit-derived altitude and an altimeter-derived altitude. For example, Beason discloses, at col. 6, line 59 to col. 7, line 10 that the correction factor is determined by computing "a difference between the GPS-derived altitude and that which has been determined from use of the barometric pressure sensor." "That correction factor is then continuously applied to sensed measurements of the barometric pressure sensor 30." (Col. 6, lines 43-45).

Masumoto appears to also disclose applying a similarly-determined correction factor. Although Masumoto does not explicitly disclose how it calibrates the barometric altimeter, Masumoto does state that it determines an absolute altitude data Z, indicative of present position

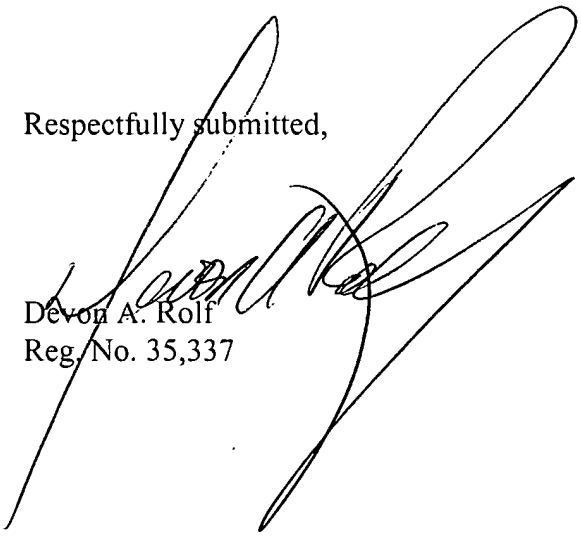
altitude, by calculating the difference between altitude data Z_1 obtained by the GPS receiver with the present relative altitude data Z_2 obtained by the air-pressure altimeter. (Col. 5, lines 20-30). Masumoto then discusses calibrating the relative altitude data Z_2 with altitude data obtained by the GPS receiver when it was last operable to determine altitude data. (Col. 5, lines 55-69). Masumoto does not teach or suggest an electronic device operable to calibrate the barometric pressure altimeter while the device is in motion, and such cannot be inferred or assumed from Masumoto because it presumably calibrates the altimeter by simply applying the difference between the relative altitude data Z_2 and the altitude data Z_1 obtained by the GPS receiver.

Similarly, although Farine does teach an electronic device having a GPS unit and a barometric pressure altimeter, Farine does not teach or suggest calibrating the altimeter while the electronic device is in motion.

As noted above, calibration of the altimeter while the electronic device is in motion results from accounting for the dynamic changes of the altitude measurements by the altimeter and GPS unit when moved in tandem. Simply taking the difference between the altitude measurements, as does the prior art references of record, will common mode out any of these changes. Therefore, the claimed feature of calibration while in motion is not taught or suggested by the prior art references of record.

In view of the remarks herein, Applicants respectfully submit that the pending claims of the continuation application are in allowable condition and requests a corresponding Notice of Allowance. Should the Examiner have any questions, the Examiner is urged to call the undersigned.

Respectfully submitted,



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